

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1-16 (Cancelled)

17. (Withdrawn) Method of real time communication between a master unit (NC, R) and at least one slave unit (R, A1, A2, S1, S2) in a communications system (KOMSYS1, KOMSYS2) having Ethernet physics,

- Each slave unit (R, A1, A2, S1, S2) being synchronized with the master unit (NC, R) by a common time base (Tsync, Tsync1, Tsync2),
- The master unit transmitting a predetermined time ($T_{Rec(s1)}$, $T_{Rec(s2)}$, $T_{Send(s1)}$, $T_{Send(s2)}$) to each slave unit (R, A1, A2, S1, S2) for receiving a telegram (T) from the master unit (NC, R) and for sending a telegram (T) to the master unit (NC, R).

18. (Withdrawn) Method according to claim 17, each slave unit (A1, A2, S1, S2, SL1, SL2) being timed by way of a respective counter (N) with a preassigned tonal cycle time (Tcycl), the respective counter (N) being set cyclically by reception of a respective slave-specific synchronization information (Nsync, Tsync) determined by the master unit (NC, R).

19. (Withdrawn) Method according to claim 17, the respective synchronization information (Tsync, Tsync1, Tsync2) being transmitted by way of a data telegram and/or a synchronization telegram.

20. (Withdrawn) Method according to claim 17, the respective synchronization information (Tsync, Tsync1, Tsync2) being integrated in the characterized data telegram.

21. (Withdrawn) Method according to claim 18, each counter (N) of a slave unit (R, A1, A2, S1, S2), even in the absence of the respective synchronization information (Tsync, Tsync1, Tsync2) after expiration of the preassigned total cycle time (Tcycl) automatically starting a new cycle.

22. (Withdrawn) Method according to claim 17, the predetermined points in time ($T_{Rec(s11)}$, $T_{Rec(s12)}$, $T_{Send(s11)}$, $T_{Send(s12)}$) being transmitted during an initialization, during which the master unit (NC, R) exclusively has authorization to transmit on the communications system (KOMSYS1, KOMSYS2) and each slave unit (A1, A2, S1, S2) exclusively has authorization to answer.

23. (Withdrawn) Method according to claim 22, each slave unit (A1, A2, S1, S2) being notified of the respective synchronization point (Tsync1, Tsync2) during initialization.

24. (Withdrawn) Method according to claim 17, wherein current instantaneous values are stored in each slave unit (A1, A2, S1, S2) at a common point of time.

25. (Withdrawn) Method according to claim 17, wherein each slave unit (A1, A2, S1, S2) in each telegram (T) sends a signal (SV) to the master unit (NC, R) and the master unit (NC, R), in the absence of said signal (SV), (CTRL0, CTRL1, CTRL2) controlledly stops the corresponding slave unit (A1, A2, S1, S2).

26. (Withdrawn) Method according to claim 17, wherein each slave unit (A1, A2, S1, S2) with each telegram (T) receives control information (CTRL0, CTRL1, CTRL2) from the master unit (NC, R) with which, by way of a second triggering channel (K2), safety-oriented functions provided can be activated directly in the slave unit (A1, A2, S1, S2).

27. (Withdrawn) Method according to claim 17, wherein each slave unit (A1, A2, S1, S2) with each telegram (T) receives from the master unit (NC, R) a master sign-of-life signal (FS), and each slave unit (A1, A2, S1, S2) in the absence of said signal automatically stopping itself controlledly.

28. (Withdrawn) Method according to claim 17, wherein separate transmission and reception lines between two network subscribers are used simultaneously, in that all slave units (A1, A2, S1, S2, SL1, SL2) will transmit only in the direction towards the master unit (NC, R, MS), and receive telegrams only from the master unit (NC, R, MS) from the master direction.

29. (Withdrawn) Method of real time communication between network subscribers to several communication systems (KOMSYS1, KOMSYS2) with Ethernet physics, network subscribers communicating with each other within each communication system (KOMSYS1, KOMSYS2) according to any of the preceding claims, a majority of network subscribers having a circuit part (HUB) to form network nodes, serving to pass along the telegrams (T) towards another master unit or additional slave units, communication between network subscribers likewise taking place by way of network nodes (HUB) according to any of the preceding claims.

30. (Withdrawn) A communication system having Ethernet physics for performance of real time communication utilizing the method of claims 16 or 29.

31. (Withdrawn) A distributed drive system with hierarchical network, a first communication system (KOMSYS1) including a numeric motion control (NC) as master unit and at least one regulating unit (R) as slave unit, each regulating unit (R) serving as master unit of an additional communication system (KOMSYS2) comprising at least one power part (A1, A2) to trigger a motor (M1, M2) and an associated emitter system (S1, S2) as slave units.

32. (Previously Presented) A method for real-time communication between a number of network subscribers in a communication system using Ethernet physics, comprising the steps of

- transmitting messages via Fast-Ethernet devices to establish communication between a master unit and one or more slave units with one another,
- synchronizing the master unit and the one or more slave units by means of a common timebase to interchange messages cyclically within a total cycle time, , and
- assigning each slave unit a first timeslot within said total cycle time for transmission of a telegram and a second timeslot for reception of a telegram; and
- assigning each master unit a third timeslot within said total cycle time for transmission of a telegram and a fourth timeslot for reception of a telegram.

33. (Previously Presented) A method according to claim 32, each slave unit being timed by way of a respective counter with a preassigned total cycle time, the respective counter being set cyclically by reception of respective slave-specific synchronization information determined by the master unit.

34. (**Currently Amended**) A method according to claim 33, wherein the synchronization information comprises a respective synchronization time and an associated number value assigned for each slave unit **[[is]]**.

35. (Previously Presented) A method according to claim 34, wherein the respective synchronization information, the total cycle time, the timeslots are assigned to each slave during an initialization phase.

36. (Previously Presented) A method according to claim 33, wherein each counter of a slave unit, even in the absence of the respective synchronization information after expiration of the preassigned total cycle time automatically starting a new cycle.

37-38. (Canceled)

39. (Previously Presented) A method according to claim 32, wherein current instantaneous values are stored in each slave unit at a common point of time.

40. (Previously Presented) A method according to claim 32, wherein each slave unit in each telegram sends a signal to the master unit and the master unit, in the absence of said signal, controlledly stops the corresponding slave unit.

41. (Previously Presented) A method according to claim 32, wherein each slave unit with each telegram receives control information from the master unit with which, by way of a second triggering channel, safety-oriented functions provided can be activated directly in the slave unit.

42. (Previously Presented) A method according to claim 32, wherein each slave unit with each telegram receives from the master unit a master sign-of-life signal, and each slave unit in the absence of said signal automatically stopping itself.

43. (Previously Presented) A method according to claim 32, wherein separate transmission and reception lines between two network subscribers are used simultaneously, in that all slave units will transmit only in the direction towards the master unit, and receive telegrams only from the master unit from the master direction.

44. (Previously Presented) A method of real time communication between network subscribers to several communication systems with Ethernet physics, wherein a majority of network subscribers having a circuit part to form network nodes, serving to pass along the telegrams towards another master unit or additional slave units, wherein the network subscribers communicating with each other directly within each communication system or via a network node according to claim 32.

45. (Canceled)

46. (Currently Amended) A distributed drive system with hierarchical network for real-time communication between a number of communication systems using Ethernet physics~~operable to perform the method according to claim 32~~, the system comprising a first communication system including a numeric motion control as master unit and at least one regulating unit as slave unit, each regulating unit serving as master unit of an additional communication system comprising at least one power part to trigger a motor and an associated emitter system as slave units, the system further comprising:

- means for transmitting messages via Fast-Ethernet devices to establish communication between a master unit and one or more slave units with one another,
- means for synchronizing the master unit and the one or more slave units by means of a common timebase to interchange messages cyclically within a total cycle time,
- means for assigning each slave unit a first timeslot within said total cycle time for transmission of a telegram and a second timeslot for reception of a telegram;
and
- means for assigning each master unit a third timeslot within said total cycle time for transmission of a telegram and a fourth timeslot for reception of a telegram.

47. (NEW) A system for real-time communication between a number of network subscribers in a communication system using Ethernet physics, comprising:

- means for transmitting messages via Fast-Ethernet devices to establish communication between a master unit and one or more slave units with one another,
- means for synchronizing the master unit and the one or more slave units by means of a common timebase to interchange messages cyclically within a total cycle time,
- means for assigning each slave unit a first timeslot within said total cycle time for transmission of a telegram and a second timeslot for reception of a telegram; and
- means for assigning each master unit a third timeslot within said total cycle time for transmission of a telegram and a fourth timeslot for reception of a telegram.